Antibacterial Properties of Goldenseal

Goldenseal (Hydrastis canadensis) was once a common plant found in woods in the eastern and midwestern United States. American Indians used the root for a variety of medicinal applications, including wound healing, diuresis, and washes for inflamed eyes. In recent years, the plant has been harvested to near extinction. In particular, goldenseal was reported to mask the appearance of drugs in the urine of clients wanting to hide drug abuse. This claim has since been proved false.

The roots and leaves of goldenseal are dried and available as capsules, tablets, salves, and tinctures. One of the primary active ingredients in goldenseal is hydrastine, which is reported to have antibacterial and antifungal properties. When used topically or locally, goldenseal is purported to be of value in treating bacterial and fungal skin infections and oral conditions such as gingivitis and thrush. As an eyewash, it can soothe inflamed eyes. Considered safe for most people, it is contraindicated in pregnancy and hypertension.

NURSING PROCESS FOCUS Clients Receiving Antituberculosis Agents

Assessment
Prior to administration:
- Obtain a complete health history including allergies, drug history, and possible drug interactions.
- Perform a complete physical examination including vital signs.
- Assess for presence or history of the following:
  - positive tuberculin skin test
  - positive sputum culture or smear
  - close contact with person recently infected with tuberculosis
  - HIV infection or AIDS
  - immunosuppressant drug therapy
  - alcohol abuse
  - liver or kidney disease
- Assess cognitive ability to comply with long-term therapy.

Potential Nursing Diagnoses
- Infection, Risk for
- Injury, Risk for, related to side effects of medication
- Knowledge, Deficient, related to drug therapy and spread of infection
- Noncompliance, related to therapeutic regimen

Planning: Client Goals and Expected Outcomes
The client will:
- Report reduction in tuberculosis symptoms and have negative results for laboratory and diagnostic tests indicating TB infection.
- Demonstrate an understanding of the drug’s action by accurately describing drug side effects and precautions.
- Immediately report visual changes, difficulty voiding, changes in hearing, or symptoms of liver or kidney impairment.
- Complete the full course of antituberculosis therapy and comply with follow-up care.

See “Nursing Process Focus: Clients Receiving Antituberculosis Agents” on page 509 for specific teaching points.
NURSING PROCESS FOCUS  Clients Receiving Antituberculosis Agents (Continued)

**Implementation**

<table>
<thead>
<tr>
<th>Interventions and (Rationales)</th>
<th>Client Education/Discharge Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor for hepatic side effects. (Antituberculosis agents, such as isoniazid and rifampin, cause hepatic impairment.)</td>
<td>Instruct client to report yellow eyes and skin, loss of appetite, dark urine, and unusual tiredness.</td>
</tr>
</tbody>
</table>
| Monitor for neurological side effects such as numbness and tingling of the extremities. (Antituberculosis agents, such as isoniazid, cause peripheral neuropathy and depletion of vitamin B<sub>6</sub>.) | Instruct client to:  
  - Report numbness and tingling of extremities.  
  - Take supplemental vitamin B<sub>6</sub> as ordered to reduce risk of side effects. |
| Collect sputum specimens as directed by healthcare provider. (This will determine the effectiveness of the antituberculosis agent.) | Instruct client in the proper technique needed to collect a quality sputum specimen. |
| Monitor for dietary compliance when client is taking isoniazid. (Foods high in tyramine can interact with the drug and cause palpitations, flushing, and hypertension.) | Advise clients taking isoniazid to avoid foods containing tyramine, such as aged cheese, smoked and pickled fish, beer and red wine, bananas, and chocolate. |
| Monitor for side effects specific to various antituberculosis drugs. (Side effects should be reported to healthcare provider.) | Instruct client to report side effects specific to antituberculosis therapy prescribed:  
  - Blurred vision or changes in color or vision field (ethambutol)  
  - Difficulty in voiding (pyrazinamide)  
  - Fever, yellowing of skin, weakness, and dark urine (isoniazid, rifampin)  
  - GI system disturbances (rifampin)  
  - Changes in hearing (streptomycin)  
  - Numbness and tingling of extremities (isoniazid)  
  - Red discoloration of body fluids (rifampin)  
  - Dark concentrated urine, weight gain, edema (streptomycin) |
| Establish infection control measures based on extent of disease condition, and established protocol. (These measures help to prevent further spread of infection.) | Instruct client in infectious control measures, such as frequent handwashing, covering the mouth when coughing or sneezing, and proper disposal of soiled tissues. |
| Establish therapeutic environment to ensure adequate rest, nutrition, hydration, and relaxation. (Symptoms of tuberculosis are manifested when the immune system is suppressed.) | Teach client to incorporate health-enhancing activities, such as adequate rest and sleep, intake of essential vitamins and nutrients, and intake of six to eight glasses of water per day. |
| Monitor client’s ability and motivation to comply with therapeutic regimen. (Treatment must continue for the full length of therapy to eliminate all M. tuberculosis organisms.) | Explain to client the importance of complying with the entire therapeutic plan, including:  
  - Taking all medications as directed by healthcare provider.  
  - Not discontinuing medication until instructed.  
  - Wearing a medical alert bracelet.  
  - Keeping all appointments for follow-up care. |

**Evaluation of Outcome Criteria**

Evaluate the effectiveness of drug therapy by confirming that client goals and expected outcomes have been met (see “Planning”).

- The client reports reduction in tuberculosis symptoms and has negative lab results.  
- The client demonstrates or understanding of the drug’s actions by accurately describing drug side effects and precautions.  
- The client accurately states signs and symptoms to be reported to the healthcare provider.  
- The client completes the full course of therapy and complies with follow-up care.

See Table 34.10 for a list of drugs to which these nursing actions apply.